**The Rehabilitation Outcome Measurement System: Advantages at the Client, Clinic and Evolving Best Practice Levels**

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**Brief Overview**

Rehabilitation Outcome Measurement System (ROMS) (ROMS) is a comprehensive interdisciplinary web-based array of occupational, functional and symptom outcome measures, each with clinically meaningful benchmarks that have been well validated (total N=1672 in WCB, motor vehicle accident, non-disabled employed and non-disabled unemployed populations, with extensive published clinical manuals: the Rehabilitation Checklist/Rehabilitation Activities of Daily Living Survey/Functional Status Measures (cite)

Utilized by all rehabilitation professionals, ROMS tracks, analyzes, graphs and reports client progress and ADL, life role and vocational outcomes relative to physical, cognitive and/or emotional impairments.

Through ongoing research on ADL/work disability, comparative interventions and specific recovery trajectories, ROMS will promote best evidence based practice at the clinic and industry levels by using an accessible, shared worldwide ROMS-based scientific clinical data repository housed within a new Centre at University of Toronto Scarborough.

**Methods**

How ROMS Works

- Patient data is collected through online/mobile interface, paper pencil and/or collateral/ Functional Ability Evaluation In-Home assessment.
- ROMS graphical printouts compare the client’s current and post-morbid status, and highlight key trends for each measure that illustrate patient progress.
- For clinic performance analysis, ROMS generates aggregate patient outcome trends based on user-selected criteria including diagnosis, physician, insurer, client characteristics, etc

With Mitacs Accelerate grant support**, the ROMS scales are being translated/validated into several languages for use in culturally diverse North American regions as well as internationally. In parallel with TBI and physical rehabilitation populations, ROMS scales will be more fully validated on mental health populations and form the basis of clinical-vocational guided rehabilitation interventions. This funding is also supporting research initiatives to establish evidenced based protocols for mixed rehabilitation populations on the basis of: single/mixed diagnoses (across physical, cognitive and emotional dimensions), levels of functional impairment, demographic and cultural considerations i.e. an intervention-diagnostic/impairment-demographic matrix.

Financial based data (treatment cost, income replacement benefit, employment earnings outcomes) is being evaluated relative to rehabilitation outcomes to discern clinical and financial best practices. Finally, the Centre will provide knowledge/technology transfer in the context of training for both new clinicians and for continuing education purposes.

Many problems occur when there is a lack of functional/vocational focus in clinical treatment including: Over and under treatment, over-reliance on independent medical assessment, lack of coordination of care from one to the next treatment/rehabilitation phase, loss of treatment gains, lack of transparency pertaining to rehabilitation progress. These problems could be largely addressed if a universal rehabilitation metric such as ROMS were utilized across all rehabilitation phases.

The sister poster demonstrates single patient/client ROMS use. The same graphical format can display aggregated patient outcomes by diagnosis/demographic clusters, or entire program/clinic outcomes.

**Priority Research Initiatives**

**Dosage effect** prognostication: Statistical projections re anticipated progress by end of remaining tx plan based on initial tx phase. When poor prognosis is identified, this will be an early signal for the current intervention to be reviewed.

Intervention modality monitoring and analysis: This proposed new module would be a sophisticated program evaluation (PE) tool allowing the user to track the progress of specific treatment providers, specific conditions/diagnoses, and/or treatment techniques. 

Lifetime treatment efficacy analysis: Tracking life time treatment responsiveness. New functionality will allow for selection of specific facilities/interventions rather than just current/All. The uniqueness of this addition to ROMS is that it will allow for life long tracking of a patient in primary care settings, and allowing comparative time periods to review most efficacious prior interventions (including medications)

Program outcome data module: This proposed new module would track program outcome data in terms of both client centred, and program/financial outcomes. Examples of client outcomes include level of functional independence, living arrangements, marital/family status, etc. Program/financial outcomes would include, for example duration of program, total number of treatment sessions/days/hours, etc.

Disorder-impairment-disability-demographic-functional matrix. The statistical/IT infrastructure will be established in order to evolve algorithms that would allow researchers to collaborate on large scale data projects to better understand the recovery course of subjects in consideration of multiple input variables relative to functional and vocational outcomes.

**Research Example**

The graphs that follow depict the evolving capacity of ROMS to address research questions such as comparing symptom, functional and prognostic perception of aggregated patients across varied diagnostic groups. ROMS can be used to contrast across diagnoses or even across mixed disability. In this case, ROMS demonstrates increased symptom intensity, decreased symptom coping/ADL, worsening prognosis with intensified psychopathology across individuals with mixed physical/brain impairments. In this case, even those with no psychological diagnosis demonstrate ongoing physical impairments, challenging unfounded psychological opinions of “malingering”.

**Conclusion**

The parallel posters have demonstrated the practical utility of the measurement system relative to TBI and mental health rehabilitation populations, in relation to the physical, emotional and cognitive impairments and their presenting impact upon ADL, Life Role Disability, symptom coping/resilience and work ramifications. In conclusion, best clinical practice would be informed by adoption of standard outcome measurement protocols. The IT and collaborative infrastructure are being developed for ROMS use as an open-access central data repository. Clinical and research collaborators are being sought across the globe.

**References**


**University of Toronto Scarborough, RRES and Multi-Health Systems (www.mhs.com)